

Application Serial No. 09/936,916
Amendment dated June 14, 2005
Reply to Office Action dated March 28, 2005

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for the homogeneous heating of semi-transparent and/or transparent glass articles and/or glass-ceramic materials using infrared radiation emitted by IR radiators, whereby ~~the glass articles~~ a glass article and/or glass-ceramic ~~materials are~~ material is subjected to a heat treatment in the range from 20°C to 3000°C[[.]] characterized in that the heating is achieved by a component of infrared radiation acting directly on the glass ~~articles~~ article and or the glass-ceramic ~~materials~~ material as well as a component of infrared radiation acting indirectly on the glass ~~articles~~ article and/or glass-ceramic ~~materials~~ material, in which the component of the radiation acting indirectly on the glass ~~articles~~ material and/or the glass-ceramic materials amounts to more than 50% of the total radiation output emitted by IR radiators, and wherein the radiation is a shortwave infrared radiation with a color temperature higher than 1500 K.

Claim 2 (canceled)

Claim 3 (currently amended): The method according to claim 1, wherein the infrared radiation acting indirectly on the glass ~~articles~~ article and/or the glass-ceramic ~~materials~~ material comprises ~~a~~ at least a proportion of reflected and/or scattered radiation.

Claim 4 (currently amended): The method according to claim 1, wherein on the average more than 50% of the total radiation output of shortwave infrared radiation which is emitted by the IR radiators is not absorbed when it impinges on the glass ~~articles~~ article and/or glass-ceramic ~~materials~~ material once.

Claim 5 (currently amended): The method according to claim 1, wherein the process is carried out in a space which is bounded by wall, floor and ceiling surfaces of an infrared radiation cavity.

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Claim 6 (currently amended): The method according to claim 5, wherein a proportion of ~~reflected and/or scattered infrared radiation~~ the component of infrared radiation acting indirectly on the glass article and/or glass-ceramic material is reflected and/or scattered by at least a part of the wall, floor and/or ceiling surfaces.

Claim 7 (previously presented): The method according to claim 6, wherein the proportion of the infrared radiation which is reflected and/or scattered by the part of the wall, floor and/or ceiling surfaces amounts to more than 50% of the radiation which impinges on these surfaces.

Claim 8 (currently amended): The method according to claim 6, wherein the proportion of the infrared radiation which is reflected and/or scattered by the part of the wall, floor and/or ceiling surfaces amounts to more than 90% of the radiation which impinges on these surfaces.

Claim 9 (currently amended): The method according to claim 1, wherein the infrared radiation which acts indirectly on the glass ~~articles~~ article and/or glass-ceramic ~~materials~~ material comprises a proportion of infrared radiation which is absorbed by a support body, converted into heat and emitted to the glass article and/or glass-ceramic material, which is thermally connected to the support body.

Claim 10 (currently amended): The method according to claim 9, wherein heat is transferred to the glass ~~articles~~ article and/or glass-ceramic ~~materials~~ material, which is thermally connected to the support body via heat radiation and/or heat conduction and/or convection.

Claim 11 (previously presented): The method according to claim 9, wherein ceramic plates are used as the support body.

Claim 12 (previously presented): The method according to claim 9, wherein the support body comprises SiC.

Claim 13 (previously presented): The method according to claim 9, wherein the emissivity of the support body is greater than 0.5.

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Claim 14 (currently amended): The method according to claim 9, wherein the thermal conductivity of the support body in the region of the heat treatment temperature is at least five times as great as that of the glass article or of the glass-ceramic material to be treated.

Claims 15-34 (canceled)

Claim 35 (currently amended): The method according to claim 6, wherein the proportion of the infrared radiation reflected which is reflected and/or scattered by the part of the wall, floor and/or ceiling surfaces amounts to more than 95% of the radiation which impinges on these surfaces.

Claim 36 (currently amended): The method according to claim 6, wherein the proportion of the infrared radiation reflected which is reflected and/or scattered by the part of the wall, floor and/or ceiling surfaces amounts to more than 98% of the radiation which impinges on these surfaces.

Claim 37 (previously presented): The method according to claim 9, wherein the support body comprises SiSiC.

Claim 38 (currently amended): A method for the homogeneous heating of semi-transparent and/or transparent glass articles and/or glass-ceramic materials using infrared radiation emitted by IR radiators, whereby ~~the glass articles~~ a glass article and/or glass-ceramic ~~materials are~~ material is subjected to a heat treatment in the range from 20°C to 3000°C. characterized in that the heating is achieved by a component of infrared radiation acting directly on the glass ~~articles~~ article [[and or]] and/or the glass-ceramic ~~materials~~ material as well as a component of infrared radiation acting indirectly on the glass ~~articles~~ article and/or glass-ceramic ~~materials~~ material, in which the component of the radiation acting indirectly on the glass ~~articles~~ article and/or the glass-ceramic ~~materials~~ material amounts to more than 50% of the total radiation output emitted by IR radiators, wherein the infrared radiation which acts indirectly on the glass ~~articles~~ article and/or glass-ceramic material comprises a proportion of infrared radiation which is absorbed by a support body, converted into heat and

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emitted to the glass article and/or glass-ceramic material, which is thermally connected to the support body.

Claim 39 (currently amended): The method according to claim 38, wherein heat is transferred to the glass article and/or glass-ceramic material, which is thermally connected to the support body via heat radiation and/or heat conduction and/or convection.

Claim 40 (previously presented): The method according to claim 38, wherein ceramic plates are used as the support body.

Claim 41 (previously presented): The method according to claim 38, wherein the support body comprises SiC.

Claim 42 (previously presented): The method according to claim 38, wherein the emissivity of the support body is greater than 0.5.

Claim ~~[[42]]~~ 43 (currently amended): The method according to claim 38, wherein the thermal conductivity of the support body in the region of the heat treatment temperature is at least five times as great as that of the glass article or of the glass-ceramic material to be treated.

Claim ~~[[43]]~~ 44 (currently amended): The method according to claim 38, wherein the support body comprises SiSiC.